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Prevalence of hepatitis E markers in primary health care antenatal attendees in Abuja, Nigeria

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Background: Hepatitis E virus (HEV) causes acute viral hepatitis globally. It is a self limiting,oro-feacally transmitted hepivirus with human and avian variants. It is selectively fatal in pregnant women among whom case fatality rates can increase from 3% to 41%.

HEV infection is sporadic in developed countries. In underdeveloped countries, fatal HEV epidemics result from faecal contamination of water and poor hygiene. Novel chronic HEV infections have been seen among immune-compromised organ transplant and HIV patients. In 2000, a cluster of 10 HEV cases was seen in Portharcourt, Nigeria. There is dearth of information about the virus in Nigeria despite preponderant oro-feacal transmissible diseases like cholera and polio. This study is to evaluate the prevalence of antibody markers of Hepatitis E and to identify any association between risk factors and HEV infection.

Methods & Materials: This is a cross-sectional study using multi-stage random sampling technique. 306 participants were sampled from antenatal attendees in 32 primary health centres (PHC) in Abuja Municipal, Nigeria. PHC's in Abuja are patronised by the poor who are attracted by the subsidised services. We administered questionnaire based on five thematic areas- demography, medical history, sanitation, water quality and food hygiene .We conducted HEV ELISA antibody tests and Liver enzyme estimation. Only pregnant Hepatitis B and C negative women were eligible. Ethical approval was obtained from the Federal Capital Territory ethical board.

Results: Mean (SD) age of participants was 26.7(±5.1). HEV antibody was positive in 55(18%). Of these, 45(81%) were IgG positive while 10(19%) were IgM positive. 1(2%) was positive for both IgG and IgM. Among the antibody positive cases, 8 (14.5%) showed elevated liver enzyme. 6 (11%) had elevations in only alkaline phosphatase (ALP) while 2(3.6%) had elevation in both ALP and aspartate transaminase (AST). There was no significant difference in mean liver enzyme concentration between IgM and IgG positive patients ($p > 0.05$). Adjusted odds ratio showed no significant risk factors for HEV in those studied ($p > 0.05$).

Conclusion: This study suggests that Hepatitis E is endemic in Nigeria. We recommend that health workers maintain a high index of suspicion and subsequently verify the Hepatitis E status of symptomatic pregnant women.

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Changing epidemiological presentation in dengue infection in South-East Asia Region

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Background: The global burden of dengue and itsimpact on health and socio-economic developmental aspects are being more and more recognized. It is estimated that 2.5 billion people are at risk in more than 100 countries in the world; and of them, 1.3 billion people are at risk in South-East Asia (SEA) Region (WHO2013). An estimated 50 million dengue infections occur each year globally. *Ae.aegypti* and *Ae. albopictus* are responsible for transmission of dengue.

Methods & Materials: A review of the available epidemiological data and references from the dengue programmes in South-East Asia Region was done in relation to changing pattern in the human host, the dengue virus and the vectors biology.

Results: Maximum burden of the infection (dengue/dengue haemorrhagic) occur in the 10 out of 11 Member countries of the SEA Region. A total 2.4 million cases were reported from 2000 to 2011 in the region. Though cases are declining in the Region since 2011, there is a sudden upsurge in Thailand and Sri Lanka. However, the case fatality rate is declining in the member countries.

Age and sex-wise analysis of trend data showed a shift in the affected age groups and sex groups. More and more cases were reported among the adults than children <15 years old. Similarly, deaths are also more among the adults(31% of 328 deaths in 2009 in SriLanka).Similarly, 57% of the deaths occurred among the females in 2009. Over a period of time, it has been observed that more and more cases are being reported by the rural areas than urban locations.

In addition, the severity and time interval between the episodes of infection depended in the virulence and genotype of the virus. The vectors are very adaptive in nature and have been affected by climatic changes, socio-cultural and economic factors, and rapid urbanization.

Conclusion: The health policy makers and programme managers may consider looking at the changing patterns to implement control/prevention measures to reduce the disease burden and its impact. Appropriate operational and implementation research issues are to be to identified in addition to basic research to effectively control dengue.

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